

***THIS OPINION WAS NOT WRITTEN FOR PUBLICATION***

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 10

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* R. B. GUPTA  
and ROBERT G. LEES

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Appeal No. 1997-4365<sup>1</sup>  
Application 08/469,726

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ON BRIEF

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Before GARRIS, WARREN and WALTZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

*Decision on Appeal and Opinion*

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 14 through 22.<sup>2</sup> Claims 23 through 32 are also of record and stand withdrawn from consideration by the examiner under 37 CFR § 1.142(b).

We will not sustain the ground of rejection of claims 14 through 22 under 35 U.S.C. § 103 as

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<sup>1</sup> We decide concurrently herewith Appeal No. 1996-0191 in application 08/001,697, filed January 7, 1993, which according to appellants is the parent of the present application.

<sup>2</sup> Amendment of June 6, 1995 (Paper No. 2).

unpatentable over Macholdt et al. (Macholdt) and Iwasawa et al. (Iwasawa) and Wooten et al. (Wooten) in view of Japanese Patent No. 58-146582 (Kajiura) and Akkapeddi et al. (Akkapeddi).<sup>3</sup> Contrary to appellants' contentions (brief, page 3), we find that one of ordinary skill in this art would have reasonably inferred from Kajiura that tris-pyrrolidonyl triazine<sup>4</sup> would homo-polymerize through a ring opening reaction involving the pyrrolidonyl moiety to form a "thermosetting resin with excellent heat resistance" as well as function via the ring opening reaction as a "hardener" or curing agent "for all-purpose resins such as epoxy resins and phenolic resins" (pages 7-8; see brief, pages 3-4).<sup>5</sup> We cannot agree with the examiner that this disclosure of Kajiura when coupled with the disclosure at page 3 with respect to "melamine" would have reasonably suggested to one of ordinary skill in this art that resins hardened with melamine *per se* would "exhibit superior heat resistance" over resins hardened with melamine *resins* (answer, pages 5 and 6-7; see also brief, page 4). We find that the examiner has not alleged that the "epoxy resins and phenolic resins" hardened with tris-pyrrolidonyl triazine as taught Kajiura will form a "film or object" which is required of the compositions specified in the appealed claims.

Further contrary to appellants' contentions (brief, page 3), we find that Akkapeddi discloses that the preparation of polyether prepolymers with "2-dimethyl-amino-4,6-bis(4-pyrrolidonyl)-1,3,5-triazine (BpT)" results in "end capped product with statistical distribution of chain extended by-products" (pages 314 and 315). We find that one of ordinary skill in this art would have reasonably inferred from this disclosure that chain extension would occur even where the prepolymers are end-

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<sup>3</sup> The references are listed at page 3 of the answer. We refer in our opinion to the translation of Kajiura prepared for the PTO by FLS, Inc. in November, 1993.

<sup>4</sup> Kajiura names this compound "2,4,6-*tris*(N-(azacyclopentane-2-onyl))-1,3,5-triazine" (page 5, line 8).

<sup>5</sup> In evaluating the teachings of the applied references, we must, of course, consider the specific teachings thereof and the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom. *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). In evaluating the relevance of the various teachings of these references, we must presume skill on the part of those of ordinary skill in this art. *See In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

capped, and further that where “2,4,6-tris(4-pyrrolidonyl)-1,3,5-triazine (TpT)” is employed, at least some of the chain extension product would reasonable involve all three pyrrolidonyl moieties, thus resulting in a *branched* prepolymer which is reactive with caprolactam in a ring opening reaction (pages 315 and 318-319). We find no disclosure in Akkapeddi that would suggest that the prepolymers and polymers form a “film or object.”

Accordingly, we find that the combined teachings of Kajiura and Akkapeddi would have reasonably suggested to one of ordinary skill in this art that tris-pyrrolidonyl triazine can be used as a cross linking or hardening agent for epoxy and phenolic resins as well as in reactions with ether and amido containing prepolymers and compounds. The examiner relies on these teaching along with the contention that Macholdt, Iwasawa and Wooten “establish the conventional expedient in the art of curing powder coatings produced from hydroxyl-functional resins with melamines” to allege that the “combined teachings of the references clearly establish the use of tris-pyrrolidonyl triazine as a hardener for hydroxyl-functional resins based on the reactivity of the pyrrolidonyl with the hydroxyl groups” and thus one of ordinary skill in this art would have been motivated to “harden the hydroxyl-functional resins of [Macholdt], [Iwasawa] and [Wooten] with tris-pyrrolidonyl triazine of [Kajiura]” in expectation of enhancing the “heat resistance of the crosslinked films” (answer, pages 5 and 6). Appellants submit that there is no disclosure in Macholdt that melamine resins are curing agents for epoxy resins shown in Kajiura and that Kajiura does not “support a general interchangeability of tris-pyrrolidonyl triazine . . . with ‘other compounds having a triazine ring’ for all applications’ or for “producing crosslinked films and objects by reaction with a polyfunctional active hydrogen containing material” (brief, page 4; emphasis in original deleted). In view of the evidence in Macholdt, Iwasawa, Wooten and Kajiura, we find ourselves in agreement with appellants.

We agree with the examiner and appellants that each of Macholdt, Iwasawa and Wooten discloses preparing a film with a powder coating composition using a hydroxy-functional resin and a cross-linking agent and find, as pointed out by appellants, that a “variety of crosslinking agents” are used, including, *inter alia*, melamine *resins* (e.g., answer, page 4; brief, pages 3-4). Indeed, we find that Iwasawa discloses that thermosetting powder coating compositions “containing an acrylic resin and

a melamine derivative, namely ‘melamine-acrylic resin,’” wherein the “melamine derivative” is “hexakisloweralkoxymethyl-melamine obtained by etherifying hexakismethylolated melamine with lower alcohol,” were known and teaches powder coating compositions comprising acrylic resins and “hexamethylolmelamine” derivatives which are particular etherified products (e.g., col. 1, lines 8-14, and col. 2, lines 17-39). We find that Wooten discloses that alkoxymelamine and hexamethoxymethyl melamines are among melamines that are useful for thermosetting resins containing functional hydroxyl groups such as polyester resins in thermosetting powder coating compositions (e.g., col. 1, lines 14-16, and col. 2, lines 53-65). We find that “melamine resin” is disclosed in Macholdt as a “curing component for hydroxyl-containing polyester resins” in powder coating compositions and, as pointed out by appellants (brief, page 4), not for epoxy resins (e.g., col. 1, lines 55-66).

Based on this evidence, we find that the combined teachings of Iwasawa, Wooten and Macholdt would have suggested to one of ordinary skill in this art that, in addition to melamine *resins*, etherified melamine derivatives can be used to cure hydroxyl-functional acrylic and polyester powder coating resins, thus forming a “film or object,” none of which is “melamine” *per se* as disclosed in Kajiura or contains a pyrrolidonyl moiety as does tris-pyrrolidonyl triazine that is taught in this reference. Furthermore, we fail to find in Macholdt or the other two powder coating references any suggestion to use melamine resins or a melamine derivative to cure epoxy resins, whether in powder compositions as in this reference or as “all-purpose resins” as in Kajiura (page 8), and we agree with appellants that the combined teachings of these references does not establish the general interchangeability of hardening agent compounds containing a triazine ring (brief, page 4). Thus, at best, the use of crosslinking agents containing a triazine ring in the powder compositions as disclosed by the combined teachings of Iwasawa, Wooten and Macholdt would have suggested to one of ordinary skill in this art “to try” other triazine ring containing crosslinking agents, including the tris-pyrrolidonyl triazine of Kajiura, which is “not the standard under § 103.” *In re O’Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988) (“In [other cases], what was ‘obvious to try’ was to explore a . . . general approach that seemed to be a promising field of experimentation where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it. [Citations

omitted.]”).

Accordingly, it is manifest that the only direction to appellants’ claimed invention as a whole on the record before us is supplied by appellants’ own specification. *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991), citing *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531(Fed. Cir. 1988)(“Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant’s disclosure.”).

The examiner's decision is reversed.

*Reversed*

BRADLEY R. GARRIS  
Administrative Patent Judge

CHARLES F. WARREN  
Administrative Patent Judge

THOMAS A. WALTZ  
Administrative Patent Judge

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